

## INFORMATION REPORT INFORMATION REPORT

## CENTRAL INTELLIGENCE AGENCY

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50X1-HUM

COUNTRY East Germany REPORT [REDACTED]

SUBJECT Endikon Image Converter in Production DATE DISTR. 17 JAN 1958  
 at VEB Werk fuer Fernmeldewesen, Berlin-  
 Oberschoeneweide NO. PAGES 1  
 REQUIREMENT NO. [REDACTED]  
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 PLACE & DATE ACQ. [REDACTED]

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SOURCE EVALUATIONS ARE DEFINITIVE. APPRAISAL OF CONTENT IS TENTATIVE.

[REDACTED] pamphlet published by VEB 50X1-HUM  
 Werk fuer Fernmeldewesen, Berlin-Oberschoeneweide, which describes  
 the Endikon image converter. The Endikon image converter was in produc-  
 tion at the Oberschoeneweide plant as of December 1957 although there  
 was a high percentage of rejections. This pamphlet is unclassified  
 when detached.

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FOR 31 8 45 AM '58  
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Notation indicated by "X"; Field distribution by "##".

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18 March 1958

JPRS/DC-L-59

EAST GERMAN BROCHURE ON A TV CAMERA TUBE -- ENDIKON F 2.5 M 1

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EAST GERMAN BROCHURE ON A TV CAMERA TUBE -- ENDIKON F 2.5 M 1

Informationsblatt Endikon F 2.5 M1  
/Brochure on the Endikon F 2.5 M 1/  
Berlin-Oberschoeneweide

Unsigned

The Endikon F 2.5 M 1 is a television camera tube with a sensitivity which permits image pickup even under normal lighting conditions. It is used especially in television cameras used for industrial purposes.

It consists of a cylindrical glass tube with noctovision scanning and a blocking layer. Because of the simple construction, the external dimensions are comparatively small.

The Endikon tube is interchangeable with the American Vidicon and the West German Regintron tubes.

Weight	ca 50 g	
Mounting	equipment-bound	<u>/geraetegebunden/</u>
<u>Noctovision Scanning</u>		
Heating voltage	$U_f$	6.3 v
Heating current	$I_f$	0.3 a
Heating-up period	$t_A$	60 seconds
Oxide cathode, indirectly heated.		
Plate potential	$U_a$	200...300 v
Potential at grid 2	$U_{g2}$	300 v
Grid blocking potential	$U_{g1}$	-30...-100 v
Cathode current, optimum	$L_k$	$\leq 150 \mu a$

### Photo Blocking Layer

Photo blocking-layer substance

antimony trisulfide  $\mu m^{??}$

Size of image max

9.6 x 12.8

Maximum spectroscopic sensitivity

540...560  $[?] \mu$

Signal current at 50 lux on a  $.0929$

photocathode area of 9.6 x 12.8 mm  $I_{sig}$

$\geq [?] \mu a$

Signal plate grid-potential  $U_p$

...100 V  $\leftarrow$  negative??

Resolving power

$\geq 400$  lines

### Beam Deflection

Deflection

magnetic

Picture coil

ca 24 AW

Line-sweep coil

ca 27 AW

Focusing

magnetic

Focusing coil

ca 300 AW

Beam adjustment

correcting magnet

### Capacitances

Signal electrode -- all other

electrodes

$C_{sig/-}$

ca 7 mmf

### Operating Conditions and Directions

The [word illegible] operating and storage temperature is  $\neq 60^\circ C$ . Endikon tubes are to be stored in the dark (packing) and must be protected from exposure to strong light (sun light) after having been unpacked.

This must be .540...560  $\mu$  (15)

Endikon tubes will be shipped and stored only in the original packing, with the photosensitive layer up.

Upon introduction of the required voltages, the Endikon tube will be ready for operation after 60 seconds to heat up the cathode of the emission system.

Proper switching precautions must be taken to prevent overloading the semi-conductor layer with the beam current (for example, when switching the apparatus on or off or in case of failure of the beam deflector). In the optical reproduction one should bear in mind that the photographic layer is located behind a plane glass disk [one or more figures illegible]  $\neq$  0.5mm thick.

The signal current value listed in the data sheet is reached during optimum adjustment.

For faultless operation the Endikon tube must be properly shielded from static and magnetic interference fields.

The angle of inclination of the Endikon tube within the camera should never exceed  $45^\circ$ .

The electron spot must be adjusted for uniform illumination of the photo-sensitive layer and maximum emission.

When the lens is closed, the potential at the signal electrode must be adjusted so as to produce the best signal and a uniform background. Then the lens can be opened or the lighting on the scene increased until a good image impression is obtained. Pay no attention to moving objects.

The new raster [Raster] should always be traced in a predetermined raster on the photosensitive layer.

If the lighting conditions are unfavorable, a slight [word illegible] shows up in the television image of the moving objects. This phenomenon is a functionally determined characteristic of the Endikon tube and can be corrected almost completely by stronger illumination of the scene and simultaneous reduction of the plate grid-potential [Flattenverspannung].

The tube is in the developmental stage. We reserve the right to introduce minor changes when the transition to regular production is made.

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